

AMENDMENTS TO THE CLAIMS

Please cancel Claims 39 and 40; and amend Claims 1, 2, 4, 6, 8, 9, 11, 14, 15-17, 19, 21, 23, 24, 26 and 30 as follows.

LISTING OF CLAIMS

1. (Currently Amended) An air conditioning system for a vehicle having a passenger compartment, the system comprising:

a case defining an air passage through which air flows into the passenger compartment;

a cooling heat exchanger in which refrigerant of a refrigerant cycle flows, the cooling heat exchanger being disposed in the air passage ~~for cooling air~~;

a heating heat exchanger disposed at a downstream side of the cooling heat exchanger in an air flow direction ~~for heating air~~;

an air mixing door ~~which is~~ disposed to adjust a flow amount ratio between air passing through the heating heat exchanger and air bypassing the heating heat exchanger; and

a self-contained cold accumulator which is disposed in the case between a ~~downstream side of~~ the cooling heat exchanger and an ~~upstream side of~~ the air mixing door ~~in the air flow direction~~, the cold accumulator having therein a cold accumulating material sealed therein ~~that is sealed separately from the refrigerant of the refrigerant cycle~~, the cold accumulating material being cooled by cold air coming from the cooling heat exchanger.

2. (Currently Amended) The air conditioning system according to Claim 1, wherein the case has a bypass passage through which air bypasses the cooling heat exchanger and the cold accumulator, the system further comprising comprising:

a bypass door which is disposed to adjust a flow amount of air passing through the bypass passage.

3. (Original) The air conditioning system according to Claim 1, wherein the cold accumulator and the cooling heat exchanger are integrally disposed to form an integrated structure.

4. (Currently Amended) The air conditioning system according to Claim 1, wherein:

the cold accumulator has a plurality of tubes each of which is made of a metal being cooled by the cold air; and

the cold accumulating material is sealed in the tubes and ~~has a phase change in accordance with a temperature change thereof.~~

5. (Previously Presented) The air conditioning system according to Claim 4, wherein the tubes of the cold accumulator are stacked adjacent each other to define a cold air passage between adjacent tubes in such a manner that cold air from the cooling heat exchanger passes through the cold air passage in a wave shape.

6. (Currently Amended) The air conditioning system according to Claim 1, wherein:

the cold accumulator has a tube ~~folded or bent~~ formed in a serpentine shape to form a plurality of folded tube portions; and

the cold accumulating material is sealed in the tube and has a phase change in accordance with a temperature change thereof.

7. (Original) The air conditioning system according to Claim 6, wherein the cold accumulator further has a fin disposed between the folded tube portions.

8. (Currently Amended) The air conditioning system according to Claim 6, wherein a plurality of the tubes, each of which is ~~folded and bent~~ formed in a serpentine shape, are disposed to be connected integrally.

9. (Currently Amended) The air conditioning system according to Claim 1, wherein the cold accumulator has a plurality of tubes ~~arranged in a direction and filled~~ with the cold accumulating material, and a fixing member disposed to fix both ends of each of the tubes.

10. (Previously Presented) The air conditioning system according to Claim 9, wherein:

each of the tubes has a flat shape in cross-section;

the tubes are arranged so that a major direction of the flat shape of each tube is along the air flow direction in the cold accumulator;

the fixing member has a plurality of recesses arranged to correspond to the arrangement of the tubes; and

at least one side end of each of the tubes are fitted into a respective recess of the fixing member.

11. (Currently Amended) The air conditioning system according to Claim 1, wherein:

the cold accumulator has at least a first cold accumulating portion and a second cold accumulating portion; and

the cold accumulating material includes a first material sealed in the first cold accumulating portion and a second material sealed in the second cold accumulating portion.

12. (Original) The air conditioning system according to Claim 11, wherein:

the cold accumulator has therein an inner partition member; and

the first cold accumulating portion and the second cold accumulating portion are integrally disposed to be defined by the inner partition member.

13. (Previously Presented) The air conditioning system according to Claim 11, wherein:

the first material has a melting point higher than that of the second material; and

the first cold accumulating portion is disposed at an upstream side of the second cold accumulating portion in the air flow direction.

14. (Currently Amended) The air conditioning system according to Claim 1, wherein:

the cooling heat exchanger is an evaporator of the refrigerant cycle having a compressor that is driven by an engine for powering the vehicle, the engine being stopped when traveling of the vehicle is unnecessary.

15. (Currently Amended) The air conditioning system according to Claim 1, further comprising:

a control unit for controlling temperature of air to be blown into the passenger compartment, wherein:

the control unit controls temperature of the cooling heat exchanger to a target cooling temperature;

~~in a cold accumulation mode for performing a cold accumulation of the cold accumulating material in the cold accumulator, the control unit sets the target cooling temperature at an initial target temperature in a cold accumulation mode; and~~

~~when the control unit determines a finish of the cold accumulation of the cold accumulating mode material in the cold accumulator, the control unit sets the target cooling temperature to be switched from the initial target temperature to a predetermined temperature that is higher than the initial target temperature.~~

16. (Currently Amended) An air conditioning system for a vehicle having a passenger compartment, the system comprising:

a case defining an air passage through which air flows into the passenger compartment;

a cooling heat exchanger in which refrigerant of a refrigerant cycle flows, the cooling heat exchanger being disposed in the air passage for cooling air;

a heating heat exchanger disposed at a downstream side of the cooling heat exchanger in an air flow direction for heating air;

a heating adjustment member which is disposed to adjust a heating capacity of the heating heat exchanger; and

a self-contained cold accumulator which is disposed ~~in the case~~ between a downstream side of the cooling heat exchanger and an upstream side of the heating

~~heat exchanger in the air flow direction, the cold accumulator having therein a cold accumulating material sealed therein that is sealed separately from the refrigerant of the refrigerant cycle, the cold accumulating material being cooled by cold air the cooling heat exchanger.~~

17. (Currently Amended) The air conditioning system according to Claim 16, wherein the case has a bypass passage through which air bypasses the cooling heat exchanger and the cold accumulator, the system further comprising comprising:

a bypass door which is disposed to adjust a flow amount of air passing through the bypass passage.

18. (Original) The air conditioning system according to Claim 16, wherein the cold accumulator and the cooling heat exchanger are integrally disposed to form an integrated structure.

19. (Currently Amended) The air conditioning system according to Claim 16, wherein:

the cold accumulator has a plurality of tubes each of which is made of a metal ~~being cooled by the cold air~~; and

the cold accumulating material is sealed in the tubes and ~~has a phase change in accordance with a temperature change thereof.~~

20. (Previously Presented) The air conditioning system according to Claim 19, wherein the tubes of the cold accumulator are stacked adjacent each other to define a cold air passage between adjacent tubes in such a manner that cold air from the cooling heat exchanger passes through the cold air passage in a wave shape.

21. (Currently Amended) The air conditioning system according to Claim 16, wherein:

the cold accumulator has a tube ~~folded and bent~~ formed in a serpentine shape to form a plurality of folded tube portions; and

the cold accumulating material is sealed in the tube ~~and has a phase change in accordance with a temperature change thereof.~~

22. (Original) The air conditioning system according to Claim 21, wherein the cold accumulator further has a fin disposed between the folded tube portions.

23. (Currently Amended) The air conditioning system according to Claim 21, wherein a plurality of the tubes, each of which is ~~folded and bent~~ formed in a serpentine shape, are disposed to be connected integrally.

24. (Currently Amended) The air conditioning system according to Claim 16, wherein the cold accumulator has a plurality of tubes ~~arranged in a direction and filled with the cold accumulating material, and a fixing member disposed to fix both ends of each of the tubes.~~

25. (Previously Presented) The air conditioning system according to Claim 24, wherein:

each of the tubes has a flat shape in cross-section;

the tubes are arranged so that a major direction of the flat shape of each tube is along the air flow direction in the cold accumulator;

the fixing member has a plurality of recesses arranged to correspond to the arrangement of the tubes; and

at least one side end of each of the tubes are fitted into respective recess of the fixing member.

26. (Currently Amended) The air conditioning system according to Claim 16, wherein:

the cold accumulator has at least a first cold accumulating portion and a second cold accumulating portion; and

the cold accumulating material includes a first material sealed in the first cold accumulating portion and a second material sealed in the second cold accumulating portion.

27. (Original) The air conditioning system according to Claim 26, wherein:

the cold accumulator has therein an inner partition member; and

the first cold accumulating portion and the second cold accumulating portion are integrally disposed to be defined by the inner partition member.

28. (Previously Presented) The air conditioning system according to Claim 26, wherein:

the first material has a melting point higher than that of the second material; and

the first cold accumulating portion is disposed at an upstream side of the second cold accumulating portion in the air flow direction.

29. (Previously Presented) The air conditioning system according to Claim 16, wherein:

the cooling heat exchanger is an evaporator of the refrigerant cycle having a compressor that is driven by an engine for powering the vehicle, the engine being stopped when traveling of the vehicle is unnecessary.

30. (Currently Amended) The air conditioning system according to Claim 16, further comprising:

a control unit for controlling temperature of air to be blown into the passenger compartment, wherein:

the control unit controls temperature of the cooling heat exchanger to a target cooling temperature;

~~in a cold accumulation mode for performing a cold accumulation of the cold accumulating material in the cold accumulator, the control unit sets the target cooling temperature at an initial target temperature in a cold accumulation mode; and~~

~~when the control unit determines a finish of the cold accumulation of the cold accumulating mode material in the cold accumulator, the control unit sets the target cooling temperature to be switched from the initial target temperature to a predetermined temperature that is higher than the initial target temperature.~~

31. - 40. (Cancelled)